Treating and Preventing Malnutrition among Children under Five:
A Case Study with Carolina for Kibera

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Approved by:

[Signature]

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Date
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I. Acknowledgements

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My family, as always, deserves a special mention for encouraging my educational endeavors and listening to me process what I’m learning and doing in increasingly hard to understand jargon. Without their support and that of many friends around the world, the process of completing an MPH and traveling abroad for an internship would have been much more arduous and much less exciting then it ended up being. Asante to everyone, I hope this document proves to be as insightful for readers as it was for me to produce.
II. **Rationale, Objectives, and Roadmap**

In the Fall of 2016, Carolina for Kibera (CFK) solicited applications for a public health nutrition intern interested in assessing the Lishe Bora Mtaani (Lishe Bora) program. Lishe Bora is CFK’s most visible child nutrition program and stakeholders are discussing the program’s next steps. After early discussions the author committed to a two-month internship exploring the program’s operations, clinical outcomes, and benefits to participating families. A case study format was the most appropriate given these parameters.

This case study was conducted with four objectives in mind. The first three objectives were developed early in the design of the case study, however, the fourth emerged at the start of the internship. Many stakeholders shared their opinions about the future direction of Lishe Bora during the qualitative data collection process. The objectives included:

1. To assess the program’s credibility by asking staff which policies and guidelines staff members followed during treatment.
2. To understand participants’ outcomes by examining quantitative data collected by CFK, interviews with staff, and focus groups with participant families.
3. To explore the programs’ benefits beyond clinical treatment by asking focus group participants and interview staff about household- and community-level changes.
4. To solidify and further the discussion about the future direction of CFK’s nutrition programs by collecting stakeholders ideas in one place.

Following the **Rationale, Objectives, and Roadmap** here, the case study is composed of five additional sections. The **Data Collection Methodology** describes the methods used by the author to collect for this case study. The case study itself begins with the **Introduction**, which contextualizes CFK’s nutrition programs by describing the current state of nutrition in Kenya, nutrition concerns in Kibera, and a short history and organizational outline of CFK. This is followed by the **Description of**
CFK’s Pediatric Nutrition Programs, which describes CFK’s nutrition-relevant programs and provides a review of the research literature on interventions like Lishe Bora that integrate nutrition and early child development. Next, the Results are described using quantitative and qualitative data gathered by CFK staff and myself. Discussions in Transition highlights the various ideas stakeholders have voiced for Lishe Bora and CFK’s nutrition efforts going forward to crystallize various options. A general Summary makes up the final section of the case study.
III. Data Collection Methodology

To understand Lishe Bora and CFK’s other nutrition programs both quantitative and qualitative data were collected. The quantitative data used in this report was collected by Lishe Bora staff and describes patient characteristics, malnutrition status, and duration of treatment. Once a nutritionist, physician, and other medical staff at Tabitha Medical Center decide to refer a child to Lishe Bora, the parent is responsible for taking the child to the Nutrition Center and providing basic patient information which is recorded in hard copy to the Lishe Bora Data Clerk (E. Opana, 2017). The information is entered into a database housed in the Access software available in Microsoft Office suite. For the purposes of generating descriptive statistics the pertinent data sets, which were current as of September 29th, 2017, were exported to Microsoft Excel and Epi Info.

The qualitative data used in this report was collected in multiple forms. Participant observation and short interviews of five questions were conducted during six home visits, led by Community Health Workers (CHWs), to develop an understanding of the food culture in Kibera. In addition, five focus groups were conducted in Swahili with the parents of children who are or have participated in Lishe Bora and twelve interviews were given by stakeholders of CFK’s nutrition programs to learn about day-to-day operations, background of the programs’ design and implementation, and the current challenges and opportunities facing these efforts.

The script for these focus group sessions was designed by the author, proofread by the Community Outreach Program Coordinator, and co-facilitated with a CFK staff member recommended based on ability to interpret and build rapport with participants. Two focus group sessions were held with parents of children currently enrolled in Lishe Bora on October 4th and October 6th, 2017. Three sessions were conducted with parents of children discharged from Lishe Bora on October 9th, 10th, and 12th, 2017. Participants were paid 200 Kenyan shillings through the mobile platform, m-pesa, as compensation for the time spent participating in the focus groups. Transcription of the focus group sessions is being
conducted by another CFK staff member with expertise in nutrition and fluent in Swahili, at the time of writing two of the focus groups with parents of discharged children had been transcribed.

The twelve interviews were given in a semi-structured format and conducted with key informants including: Lishe Bora staff, Tabitha Clinic nutrition staff, CFK administrators, and the Langata-Kibera Sub-County Nutritionist. Interview scripts varied by position and job description to understand different aspects of CFK’s work in nutrition. Interviews were completed within the timeframe between September 15th, 2017 and October 24th, 2017. Interview participants’ contact information was recorded in case of follow-up questions, which were sent to a few participants. Transcription was done by the author.

Both focus groups and interviews were analyzed using themes determined after the data collection and transcription were completed. Each transcript was simultaneously reviewed for observations about Lishe Bora’s outcomes at the child, family, and community levels, as well as, discussion of concerns and challenges facing the program and ideas for CFK’s nutrition efforts going forward.
IV. Introduction

Description of Kenya and the Nutrition Context

Kenya, a country of 48 million people, is perched on the Indian Ocean coast of East Africa. The country gained independence from Great Britain on December 12, 1963. Neighboring countries include Tanzania to the south; Uganda to the west; and South Sudan, Ethiopia, and Somalia to the north. The country’s population has increased from 10.9 million since its first census in 1969 to more than 43 million according to estimates from the 2014 Demographic and Health Survey (DHS), a rapid increase typical of African countries (Kenya National Bureau of Statistics et al., 2014). Accordingly, in 2015 the UN estimated the population’s median age at 19 years old (United Nations Population Division, 2017). Kenya’s population is composed of 42 different tribe or ethnic groups with various languages and ancestral homelands checkered across the country, in addition to an established Indian immigrant population. English and Swahili coexist as the official languages at the national level among many local languages and dialects.

Home to the largest port in East Africa and a century-old railroad line to Uganda, Kenya is the region’s major commercial, as well as, cultural and democratic hub. According to the Demographic and Health Survey (DHS), the country is categorized as a Low Middle Income Country, with GDP growth between 5-6% for the last few years (Kenya National Bureau of Statistics et al., 2014). The majority of the workforce is engaged in agriculture at 61%, while 32.2% are employed in the service industry. To some degree this reflects the 73.5% of the population living outside the country’s urban areas (Central Intelligence Agency, 2017).

The government of Kenya currently recognizes that a healthy population is a crucial input for economic development (Kenya National Bureau of Statistics et al., 2014; Ministry of Public Health and Sanitation, 2012). Life expectancy in Kenya for females is 69 year and for males is 64.7 years (Institute for Health Metrics and Evaluation, n.d.). The top ten causes of death in 2016 were: diarrheal diseases,

In 2011, political changes in Kenya rapidly built an enabling environment for increased nutrition-specific and -sensitive interventions. Nutrition-specific interventions are those that “address the immediate causes of suboptimum growth and development”, while nutrition-sensitive interventions are those that “address the underlying determinants of malnutrition and incorporate specific nutrition goals and actions” (R. E. Black et al., 2013). Figure 1 below is taken from the original article in the 2013 Lancet Nutrition Series were the terms were first developed.

Figure 1. Framework for Actions to Achieve Optimum Fetal and Child Nutrition and Development (R. E. Black et al., 2013)
This enabling environment began with adoption of a new constitution guaranteeing the right to food security for all Kenyans and the right to basic nutrition for children (Republic of Kenya, 2011). Shortly thereafter the country adopted a National Food and Nutrition Security Policy (Republic of Kenya, 2011). The policy provides a framework to understand important areas of nutrition in Kenya and “for seeking resources, advocating higher priority interventions, and developing operational and management strategies.” On August 30, 2012 Kenya joined the Scaling Up Nutrition (SUN) Movement. SUN member countries commit to promoting nutrition enabling environments among many stakeholders (Scaling Up Nutrition Movement, 2017). In the same year, the Ministry of Health released its National Nutrition Action Plan for 2012-2017 (Ministry of Public Health and Sanitation, 2012).

However, there is much work to be done. Among those surveyed by the DHS in 2014, 30.7% of all households reported lacking food or money to purchase food (Kenya National Bureau of Statistics et al., 2014). Food insecurity was more common in rural areas than urban and increased as wealth quintile decreased. Food insecurity was especially prevalent in western Kenya and Nyanza. But, coping strategies among food insecure people were most severe in the Rift Valley and eastern parts of the country (Kenya National Bureau of Statistics et al., 2014).

Among children specifically, anthropometrics are trending towards improvements in height-for-age and weight-for-height. A height-for-age z-score below 2 standard deviations from the mean indicates stunting caused by chronic malnutrition, while a weight-for-height z-score below 2 standard deviations indicates wasting caused by acute malnutrition (WHO Department of Nutrition for Health and Development, 2006). The stunting prevalence among children in the DHS was 26%, with an urban and rural prevalence of 19.8% and 29.1% respectively. Weight-for-height data shows a prevalence of wasting at 4% and a prevalence of overweight at 4.1% reflecting a small piece of the country’s double burden of malnutrition (Kenya National Bureau of Statistics et al., 2014). The country’s stunting prevalence represents a medium level of severity and the wasting prevalence signifies a low level of severity.
according to the World Health Organization’s (WHO) categorization of malnutrition prevalence as seen in Table 1 (De Onis & Blössner, 1997).

Table 1. Classification for Assessing Severity of Malnutrition Prevalence Ranges among Children under 5 Years of Age (Onis & Blossner, 1997)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stunting</td>
<td>&lt;20</td>
<td>20-29</td>
<td>30-39</td>
<td>40≤</td>
</tr>
<tr>
<td>Underweight</td>
<td>&lt;10</td>
<td>10-19</td>
<td>20-29</td>
<td>30≤</td>
</tr>
<tr>
<td>Wasting</td>
<td>&lt;5</td>
<td>5-9</td>
<td>10-14</td>
<td>15≤</td>
</tr>
</tbody>
</table>

Description of Kibera and the Nutrition and Early Child Development Context

Kibera is located to the southwest of Nairobi’s Central Business District. The settlement is made up of thirteen villages and bound by the Nairobi River and Dam to the south and Kibera Drive and the Royal Nairobi Golf Course to the north, with western Nairobi’s main rail line serving as one of the settlement’s central thoroughfares. Media accounts estimate Kibera’s population at up to 1 million people live and a UN-HABITAT report in 2005 placed the number between 400,000-700,000. However, the 2009 Census and other estimates have scaled down this number to between 170,000-250,000 people (Desgroppes & Taupin, 2009). These numbers, regardless of the uncertainty, still position Kibera as one of the largest slums in Africa. The three largest ethnic groups represented in Kibera are the Luo, Luhya, and Kisii. While many have grown up in Kibera, residents are usually transplants from western Kenya around Lake Victoria. As a result, many have family ties and property in rural Kenya.
Image 1. Kibera’s Thirteen Villages (Map Kibera, 2009)

Image 2. Satellite Image of Kibera (Google, 2017)
Like other informal settlements, Kibera’s local economy is limited by which jobs are available and infrastructure investment. In 2014, a study of Nairobi’s slums examined the main source of income among households in Kibera and four peer informal settlements; 46.5% were employed in casual labor jobs, 26.7% ran small businesses, and 24.5% relied on salaried employment (Kirichu, 2014). These casual labor jobs are unplanned and often involve doing chores in the homes of middle class families nearby.

Infrastructure in the form of roads is limited to northern and western Kibera, with most traveling along dirt paths and the rail line in the central and eastern parts. Electricity in Nairobi’s informal settlements was available in only 19.5% of households as of 2012, which was higher than the 8.1% availability in rural areas, but far below the 88.6% availability in all of Nairobi. Drinking water was another disparity with the majority, 59.3%, of informal settlement residents in Nairobi using public taps. This is a unique situation as other urban areas rely heavily on piped water, while rural areas depend on alternative sources of water, such as wells or nearby natural sources (African Population Health Research Center, 2014). Systematic sewage management is non-exist in Kibera, and in Nairobi’s informal settlements garbage/sewer disposal was cited as the most important general concern by 13.7% of people, second only to lack of water (African Population Health Research Center, 2014).

According to the DHS health indicators in Kenya are higher on aggregate in urban areas like Nairobi (Kenya National Bureau of Statistics et al., 2014), this is not necessarily the case when informal settlements’ data are disaggregated. Life expectancy data within informal settlements is difficult to come by, however, one study based on the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) identifies the top five causes of death among those over 15 years of age as tuberculosis, injuries, HIV/AIDS, cardiovascular disease, and cancer (Mberu, Wamukoya, Oti, & Kyobutungi, 2015). Another study based on an earlier round of the NUHDSS identified the top causes of premature death of children under-age five as pneumonia, diarrheal diseases, stillbirths, malnutrition and anemia, and birth injury/asphyxia (Kyobutungi, Ziraba, Ezeh, & Yé, 2008).
The factors most affecting families in Kibera are income and food costs. In home visits with six mothers in Kibera (mostly from families with children enrolled at the Nutrition Center) a general outline of household costs as compared to food preparation costs was assembled. For these women, pay is between 300-700 shillings a day (the equivalent of $3-$7), but is available only 2-5 days a week (Walker, 2017). Housing (~1500 shillings/month), electricity (~300 shillings/month), clean water (2-5 shillings/20 liters depending on location), healthcare (variable), school fees (50+ shillings/day for poor-quality daycare, more for older children) and clothes (including diapers) add up and limit the food budgets of many families in Kibera. To prepare meals ingredients, cooking oil, and heat sources (usually charcoal) must be purchased. Of the women I spoke with, expenditures on food in a day varied between 100-300 shillings for families with 1 to 3 children (Walker, 2017).

Among the visited households, the most common foods were ugali, sukuma wiki, chapati, ndengu, mandazi, and black tea. Notably these families did not eat fish, which is extremely common among people from western Kenyan, or take chai, milk tea commonly served in Kenyan homes. More than half the mothers I spoke with said they commonly skipped midday meals and took only black tea, sometimes with mandazi, to stay in budget. In larger focus group discussions with over thirty current and former mothers of children at the Center almost all stated that while healthy foods were available for in Kibera, they were not affordable (“Parents of Discharged Children 1,” 2017, “Parents of Discharged Children 2,” 2017). Low incomes are a constraint for a significant number of families in Kibera, especially when buying animal proteins, dairy products, and some fruits. Beans and some fruits are purchased at regular intervals among low income mothers who have been sensitized to young child nutrition recommendations, but are not present at every meal.

These other factors are exacerbated among young children by the irregular work schedules of parents in casual jobs and the need for childcare during the workday. In Kibera, because other household costs constrain the ability to pay for quality childcare, caregivers often leave their children at home, under the supervision of a neighbor, or in low-quality daycare settings (“Parents of Discharged Children 1,”
Given the dense living conditions, impaired ability to maintain a hygienic environment due to poor infrastructure, and less health coverage the nutrition environment in Kibera produces higher levels of stunting than in other parts of the country. According to Sub-County Nutritionist, Helen Obanyi, the stunting rates in Langata-Kibera Sub-County are high. The government database, based on the open-source DHIS 2 software, places the prevalence of stunting in Langata-Kibera Sub-County as 15%. Due to a target population that is less likely to regularly access health, Obanyi says this underestimates the actual prevalence. Surveys conducted with Feed the Children and Save the Children estimate the prevalence of stunting in Kibera as 38% and 48% respectively (Obanyi, 2017). When compared with the World Health Organization’s classification of malnutrition prevalence severity, these last two numbers place Kibera in the “High” and “Very high” categories (see Table 1).

Description of Carolina for Kibera

CFK is an international non-governmental organization whose mission is “to develop local leaders, catalyze positive change and alleviate poverty in the Kibera slum of Nairobi.” (Carolina for Kibera, 2017). The organization was founded in 2001 among friends Rye Barcott, Tabitha Atieno Festo, and Salim Mohamed. A prominent motto of the organization is “Talent is universal, opportunity is not.” Naturally, participatory development is a cornerstone of CFK’s guiding principles and the organization is deeply integrated with the community. The organization is led from its offices in Kibera, where 60 full-time and part-time staff are based while support is provided by 3 staff members in Chapel Hill, North Carolina (Carolina for Kibera, 2017). What started as an interethnic soccer league and the opening of a
health clinic has expanded into several other services. CFK now operates many programs divided among three departments: Economic, Health, and Social.

Within the Health Department, currently led by Mark Muasa, established programs include: Tabitha Medical Clinic (also referred to as the CDC Clinic), Sexual and Reproductive Health, the Community Health Outreach Project, Lishe Bora, and the Nilinde Project. The focus of this case study is on CFK’s efforts to treat malnutrition among children under five. The organization is, an extremely receptive and willing partner in promoting good nutrition in Kibera. Most community development organizations recognize the importance of nutrition in the development of a child, but few commit resources in the way CFK has. This focus is both unique – Lishe Bora is the only center-based SAM treatment program in Kibera – and appreciated – the Ministry of Health’s Langata-Kibera Sub-County Nutritionist, Helen Obanyi, said of CFK, “They are my main, main, main partner.”
V. Description of Carolina for Kibera’s Pediatric Nutrition Programs

Clinical Programs

CFK’s Lishe Bora is the most visible nutrition-specific intervention of a focused effort to treat and prevent malnutrition among children under five years old in Kibera. Lishe Bora, founded in May of 2013, is an extension of the Tabitha Medical Clinic and employs six staff members. The program is operated somewhat like a daycare with a focus on food to meet participants’ nutrition needs. Two snacks (one with RUTF added) and lunch are served throughout the day and supplements are distributed to families every two weeks for home feeding. Staff include a Nutritionist, two Early Child Development (ECD) Teachers, a Data Clerk, and two Community Health Workers. The program operates Monday through Friday from 8:30am until about 4pm when all children have left the Center with their caregiver.

Lishe Bora follows pertinent WHO and Kenyan Ministry of Health guidelines in treating its children for malnutrition. At the international level, pertinent guidelines begin with the *WHO Child Growth Standards: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height, and body mass index-for-age* (WHO Department of Nutrition for Health and Development, 2006), which was released in 2006 and created an international standard of growth for children from varied ethnic backgrounds and optimal conditions. A joint statement from the WHO and Unicef in 2009 built on these new standards clarifying the z-score cutoffs and Mid-Upper Arm Circumference (MUAC) cutoffs for severe acute malnutrition (SAM) (World Health Organization & United Nations Childrens Fund, 2009). In 2013, the WHO released the *Guideline: Updates on the Management of Acute Malnutrition in Infants* which updated guidelines based on new evidence (World Health Organization, 2013). At the national level Lishe Bora is guided by the standards set in *Integrated Management of Acute Malnutrition* released in 2009 as community management of acute malnutrition became more common (Kimani & Sharif, 2009) and the national *Maternal, Infant, and Young Child Feeding Policy* (Njiru & Matiri, 2013).

Lishe Bora is operated out of the Nutrition Center, a space rented from a Pentecostal Assemblies of God church in Gatwekera village. In addition to Gatwekera, the program mainly serves residents of
two other villages in Kibera: Kianda and Soweto West. These three villages form the majority of western Kibera, and the most politically active portion of the settlement. Lishe Bora is open to residents of other villages in Kibera, but barriers including time constraints, mobility, and less malnutrition identification in other villages limit participation to the west end of Kibera.

CFK also operates an Outpatient Therapeutic Program (OTP) that serves children diagnosed with Moderate Acute Malnutrition (MAM). Operated out of the Tabitha Medical Clinic which is located at another site in Gatwekera village. This program is also a nutrition-specific intervention, while the other health services that Tabitha Clinic provides are considered a nutrition-sensitive intervention in the 2013 Lancet framework. After screening positive for malnutrition, children come to Tabitha Clinic to be fully assessed, currently 15-20 children each month are identified with MAM or SAM (Lang’at, 2017). Every two weeks the program provides a checkup, parent counseling, and a two-week supply of Ready to Use Supplementary Foods (RUSFs) to parents throughout treatment as specified by the guidelines in the Integrated Management of Acute Malnutrition. Periodic parent support groups, with group nutrition education, are also incorporated into the OTP.

Community Outreach Program

Outside of clinical grade treatment, CFK also operates a Community Health Outreach program with several facets focused on malnutrition prevention. This program includes hosting community events, including a World Breastfeeding Day Event attended by over 900 people; training and support for Care Groups targeting pregnant women, mothers of newborns, and those with children under age two; and coordinating Community Health Volunteers (CHVs), who visit neighbors to screen children for health issues, in addition to providing information about prevention and current health topics. Together these community efforts improve prevention of malnutrition in Kibera and form the bulk of CFK’s nutrition-sensitive interventions, such as providing resources to support feeding and caregiving, encouraging Water, Sanitation, and Hygiene (WaSH) interventions, and early child development screening.
Based on the number of identified cases of MAM and SAM since Lishe Bora was founded four and a half years ago, staff at CFK say these programs have been successful. Next steps for Lishe Bora and CFK’s nutrition efforts are being discussed covering topics such as: collaboration with early childhood development centers and daycares, expansion of services, and scale up of malnutrition identification efforts. Many of these potential developments are rooted in an increased shift towards prevention and will be built on new or expanded partnerships within the community.

The Intersection of Nutrition and Early Child Development

CFK’s nutrition programs were designed with the evidence-base in mind. This is particularly true of Lishe Bora, which integrates nutrition and early child development in a center-based setting. All Lishe Bora staff have worked there since the program’s beginning. All staff members of the Nutrition Center discussed the importance of integration to a child’s cognitive development (Akoth, 2017; Madahana, 2017; Nekesa, 2017; E. Opana, 2017). Esther Opana spoke to this, “If the child is malnourished during that age [under two years] and nothing is done, the development process will be tampered with. So, it will be much easier having these…under 5s at the Center. (E. Opana, 2017)”. There is a clear focus to provide physical, cognitive, and social stimulation while children are treated at the Nutrition Center.

The intersection of nutrition and early child development (N+ECD) is an area of intense focus among researchers in child development, education, nutrition, medicine, and public health. In 2007, 2011, and 2016 the Lancet published series featuring child development that identified nutrition and early education as integral components of successful ECD efforts (Jolly, 2007; Lake, 2011; Summary, 2016). In early 2014, the Annals of the New York Academy of Sciences published a series titled Every Child’s Potential: Integrating Nutrition and Early Childhood Development Interventions exclusively focused on advancing the understanding and application of N+ECD (Chan, 2014). Many individual articles focusing on N+ECD have been released throughout this period as well.
The reasons for integrated N+ECD interventions are many including cost-effectives by modifying community existing institutions, co-location of services for participants that reduce access barriers, coordinated messaging across both fields, and a greater emphasis on holistic treatment of a child (Digiroloamo, Stanbery, & Lung’aho, 2014). However, improved child development outcomes should be the most compelling reason to ensure children are equipped to grow up as fulfilled and productive adults. Integrated programs have been shown to have positive effects in the treatment of malnourished children and low birth-weight infants (Engle et al., 2011). Integrated N+ECD interventions also show improved outcomes over nutrition-only interventions, though more research is needed to determine whether N+ECD interventions show better outcomes than ECD interventions (M. M. Black & Dewey, 2014). Current research shows that the benefits of integrated programs to child development outcomes are additive, not synergistic (Grantham-Mcgregor, Fernald, Kagawa, & Walker, 2014). Future research is needed to determine whether the

In Lishe Bora, whose participants are often stunted in addition to being SAM, there is considerable evidence supporting the program’s design. Integrated programs targeted to undernourished children were especially beneficial to participants, emphasizing the importance of ECD (Grantham-Mcgregor et al., 2014). One study conducted with ECD, nutrition, integrated N+ECD, and control group arms found that stunted children participating in an ECD intervention had earnings equivalent to those in the healthy control group, basically erasing the cognitive inequities that arise from stunting (Gertler et al., 2014). In addition, research shows that while the greatest impact of nutrition interventions occurs before age 2, known in the field as the first 1000 days, the second 1000 days or roughly before age 5 ECD interventions have an impact on cognitive development (M. M. Black & Rao, 2015). This matches well with Lishe Bora’s target population of children under five years old. In Malawi, widely available Community-based Childcare Centers (CBCCs) also showed particularly important outcomes for children who were orphaned, in poverty, or disabled (Munthali, Mvula, & Silo, 2014). Though Kibera is highly
urban compared to a large portion of that study’s sample this suggests the structure of Lishe Bora is fitting of the stressful situation children in informal settlements often find themselves.
VI. Results

Quantitative Data

Based on data provided, 328 children diagnosed with SAM have been admitted to Lishe Bora since its opening in May 2013. Spread over the fifty-three months of Lishe Bora’s existence, the center admits an average of 6.2 children each month. However, in interviews with staff there was a general recognition that the pace of admission is, fortunately, declining as cases of SAM become more difficult to identify in the western section of Kibera (Akoth, 2017; Nekesa, 2017; Omiya & Akuku, 2017; E. Opana, 2017). The villages of Gatwekera, Kianda, and Soweto West, the stated service area of Lishe Bora, have made up 86.9% of admissions since 2013. Six other villages and two nearby neighborhoods sometimes considered part of Kibera made up 6.4% of admissions, while the other 6.7% did not list a village. Three diagnoses can be used to admit children for SAM treatment, including a MUAC less than 11.5 cm, a weight-for-height z-score of less than -3, or the presentation of edema. These made up 68.6%, 26.83%, and 4.57% of the admitting diagnoses after clinical assessment at Tabitha Clinic or elsewhere.

To date, 289 children have been discharged, defaulted, or died while in Lishe Bora. A discharge is recommended by IMAM when a child who achieves a healthy score on the metric they were admitted by, either MUAC of weight-for-height z-scores, or achieve attain healthy indications following resolution of edema. According to the IMAM guidelines, a default occurs when a participant is absent for more than three visits (Kimani & Sharif, 2009). The percentage of successful discharges is high for the program at 91.35% representing 264 children cured. There have only been 18 defaults and 3 deaths in the program’s history. In addition, 4 children have been readmitted to Lishe Bora, two of them siblings, meaning only 1.23% of children have needed to access Lishe Bora twice. In breaking down the metric used to justify a discharge MUAC is most important at 77.85%, while z-score and the answer N/A represent 14.53% and 4.84% of the discharge justifications. IMAM guidelines recommend discharging children based on the metric used in making their initial diagnoses (Kimani & Sharif, 2009). By matching the Child ID numbers in the Lishe Bora database it is possible to assess how often the same metric is used for admission and
discharge. For all children admitted and discharged from the program, excluding those admitted for edema which is not recommended to assess discharge readiness, the same criteria were used 61.37% of the time. Increasing this number represents a potential area of improvement.

By matching Child ID numbers from the Lishe Bora database it is also possible to calculate the duration of treatment. To assess this, any duration of less than a week was excluded (this covered 2 cases admitted for less than 7 days, as well as, 6 cases that appear to have been incorrectly entered as they have negative duration values). In discussions with staff, at Lishe Bora’s founding the intended duration of treatment was between 8-12 weeks, but experience has made that target seem too short to treat malnutrition (Nekesa, 2017). On average, the duration of enrollment averages 15.7 weeks and the median duration of enrollment is 13.4 weeks. This skew is created by some outliers, there have been six cases where the duration of enrollment has lasted more than 60 weeks. However, more than 75% of all cases take between 11-20 weeks to resolve (see Figure 2).

Figure 2. The Distribution of Case Duration at Lishe Bora
Qualitative Reports

Lishe Bora’s positive outcomes are not limited to improvements in anthropometrics and clinical symptoms like weight-for-height, MUAC, or edema. In addition to its work in nutrition, Lishe Bora offers early child development services according to one of the program’s teachers, Veronica Akoth, “The children are supposed to be helped holistically: socially, physical, and also cognitive growth. So, I help them in all those.” The program also hosts monthly nutrition and ECD education sessions for parents and parents volunteer at the Nutrition Center, when not working, to observe the practices there (Madahana, 2017; E. Opana, 2017). Enrollment in the Nutrition Center entails access to wraparound health care as well. Referrals to the Tabitha Clinic are common and a partnership with nearby Paolo’s House gives parents to physical therapy services free of charge (Madahana, 2017). Comments from parents and staff support the assumption that this comprehensive approach is having an impact on more than just linear growth.

In both focus groups and interviews, there is a general trend of improvement in children’s activity levels, socialization, and physical abilities after admission to Lishe Bora. In the focus groups with parents whose children have been discharged from the program, several women commented that their child arrived at the Nutrition Center either very serious or with limited energy, but saw an improvement in demeanor and activity level after the first few days or week of enrollment. In addition, the same caregivers mentioned their child had become more social while being at the Nutrition Center and two even reported notable growth after enrollment (“Parents of Discharged Children 1,” 2017, “Parents of Discharged Children 2,” 2017). In the first focus group with parents of children discharged from Lishe one mother said this, “He used to mostly sleep. Hardly ever walked or sat. He was so weak. But after bringing him here, and after being fed nutritiously, he got strong and started playing with the others. His body grew. He changed in a good way” (“Parents of Discharged Children 1,” 2017). This is supported by staff accounts of the progress many children make while at Lishe Bora (Akoth, 2017). One mother even reported her child began to laugh again after one week with Lishe Bora following a hospitalization:
He was admitted for one month in the hospital. He had chest problems…and the time he was discharged he was 5.7 kg. So, he was very down. The weight was very low. And that time the child didn’t walk, or sit down. He was 9 months and could not even sit down. But, the time I admitted him here for one week, he started playing, he started laughing with people. And the time he was in the hospital he was a very serious boy. He didn’t even laugh when you played with him. But since he came here, after one week I saw a great change (“Parents of Discharged Children 2,” 2017).

Within the household and family, the impact of Lishe Bora is tied to two factors – the transfer of early child care and development information and the opportunity to improve a family’s financial stability. Typically, caregivers who do not have work commitments are required to volunteer part of their time at Lishe Bora. This allows caregivers to increase their knowledge of child care practices. (Madahana, 2017; Muasa, 2017; E. Opana, 2017). In addition, this his component of Lishe Bora also provides an opportunity for participant families to hold the program accountable. “When she is away, she can start having doubts, “Is my child really getting good support at the Nutrition Center?” So…they can monitor on how their children are being fed, on how their children are being taken care of” (Madahana, 2017).

This component was recommended and supported by community members during the program’s planning phase (Omala, 2017).

Some mothers of discharged children reported learning about providing a healthy, balanced diet for the first time while their child was enrolled in Lishe Bora. In addition, one mother shared that her mentality about feeding her child had changed, “We used to give children what we have. But we came to realize no, you aren’t supposed to give your child just what you have. You need to mix those foods so that the child can grow well” (“Parents of Discharged Children 2,” 2017). Another mother had a similar experience, “I didn’t know there is something like balanced dieting. I was feeding kids with greens and knew that’s a good balanced diet. I didn’t know I should feed them with fruits too. Also used to make porridge with the normal flour, and dint know of this other nutritious one” (“Parents of Discharged Children 1,” 2017). Caregivers also have the opportunity to return for more information later, one mother reported making occasional stops at the Nutrition Center, even after her child had been discharged, to ask
for feeding advice, “I often come and talk to my sister inside here. She usually gives me some advices, but the child is now big, 5 years now, in nursery school. He is doing very well” (“Parents of Discharged Children 2,” 2017). Staff members reported that this learning is visible in the admissions of participants’ younger siblings, which are rare (Madahana, 2017; E. Opana, 2017).

An equally interesting aspect of Lishe Bora’s outcomes at the family level is the freeing up of parents’ time to improve their family’s financial stability. Because Lishe Bora cares for children during general work day hours, usually from 8:30am until 4pm, caregivers with only one young child are able to pursue work opportunities more freely. Several of the families that participate in Lishe Bora are single-parent, woman-headed households and Lishe Bora’s center-based model is especially helpful to this group. Community health workers observe this with some families and this arrangement was also mentioned by Lishe Bora Nutritionist, Esther Opana, “Normally what they are usually saying is…the child will be coming to the Center, so, most of them go and look for casual jobs. They do it, then in the evening they come pick their child” (Omiya & Akuku, 2017; E. Opana, 2017).

In focus groups mothers discussed being able to work without worrying about their child because they knew the child was well cared for at Lishe Bora. For some caregivers, a child’s enrollment means more control over the household environment – one mother reported being able to complete tasks around the house after her twins were admitted (policy requires that twins be linked, or admitted simultaneously, if one is malnourished). Another mother reported being able to work a consistent job:

Bringing my child here enabled me to get more time to do my work…I was no longer afraid that my child was in a bad place. I work in a hotel, so, I could work at peace and wasn’t so worried about my child…I could make enough to buy flour. I could pay someone 20 shillings to come pick my child for me. So, it really helped (“Parents of Discharged Children 1,” 2017).

One mother, when she found herself out of a job, became an entrepreneur. “After my child was discharged, I had lost my job I saw an opportunity and opened a daycare.” (“Parents of Discharged Children 2,” 2017).
However, the financial transition that comes with discharge is difficult for many families. Multiple staff reported caregivers crying or showing distress when considering how to provide childcare for their children. The Lishe Bora Data Clerk, Jacky Nekesa, discussed this, “They don’t want to discharge the children at this center…at the time of discharge some parents cry and they tell me, ‘Where am I going to take my child? The child is used to this food, so, what can I do?’” (Muasa, 2017; Nekesa, 2017; E. Opana, 2017). In one focus group, a mother described this state, “When my child was discharged from here, the baby was in good health. I was sad because the kid was used to having lunch at 12.30 and a fruit at 4pm. So, I got worried” (“Parents of Discharged Children 1,” 2017). Further investigation is needed to determine and improve the sustainability of financial benefits connected to Lishe Bora.

Based on what stakeholders reported in the focus groups and interviews, the communities around the Nutrition Center, especially Gatwekera, Kianda, and Soweto West, seem to be benefitting from Lishe Bora. Caregivers in the focus groups reported encouraging others to have their children screened for malnutrition and sharing information about nutrition and ECD with neighbors (“Parents of Discharged Children 1,” 2017). Among CFK staff there is a general perception that it is becoming more difficult to identify children with malnutrition in the three villages that make up Lishe Bora’s core service area.

Clinic Manager of Tabitha Clinic, Faith Lang’at, pointed this out:

“Yeah, I can say it has changed quite a bit because when we started the Nutrition Center I think the first enrollment we were up to about forty. And we didn’t…actively look for them. They were just almost, if I can use the word, readily available…But, now we don’t get as many as we used to. Unless now we actively go through the field to look out for them” (Lang’at, 2017).

Current enrollment at Lishe Bora, which hovers around 20, is much lower than the 40+ children enrolled when the program was founded in 2013 (Nekesa, 2017; Omala, 2017).

Lishe Bora also operates as a good community partner. Langata-Kibera Sub-County, despite having the most accurate malnutrition case reports in Nairobi County (Lang’at, 2017), still sees temporary shortages of commodities channeled through the government, like RUTFs and RUSFs. CFK voluntarily
facilitates the Sub-County Nutritionist’s efforts to redistribute commodities as needed, “They are always willing and ready to give me transport…for redistribution of the commodities, which as a sub-county we are running yes. But, we do not have vehicles for redistribution of commodities” (Obanyi, 2017). In addition, Lishe Bora and CFK have also begun sensitizing daycares and ECD centers in Kibera to nutrition issues (Muasa, 2017; Obanyi, 2017; Omala, 2017; E. Opana, 2017). Both partnerships identify CFK as a highly collaborative organization in addressing nutrition concerns.
VII. Discussions in Transition

In talking with various stakeholders, one thing was clear: Lishe Bora, and CFK’s nutrition-focused efforts are in transition. Lishe Bora and CFK’s other pediatric malnutrition-focused efforts have matured in the last few years. CFK’s ability to address acute malnutrition and other nutrition issues in Kibera has greatly improved, so much so, that changing the current structure of Lishe Bora is now being discussed partly as a result of falling enrollment numbers. There are many challenges facing the program, but several stakeholders also see opportunities for CFK’s next steps in pediatric malnutrition treatment and prevention. Different concerns and ideas voiced during qualitative data collection are discussed below in hopes of further developing this conversation.

Challenges and Concerns

Internal

A leading concern for stakeholders in CFK’s nutrition programs is Lishe Bora’s sustainability. Overhead costs of renting the facility, labor costs, and food provision all make Lishe Bora a more expensive program than typical community-managed SAM treatment programs (Muasa, 2017). CFK’s Head of the Health Department believes Lishe Bora’s sustainability is a priority concern, and CFK’s Executive Director identified sustainability as the program’s main weakness (Muasa, 2017; Omala, 2017). In addition, CFK’s current funding makes scaling Lishe Bora to eastern villages of Kibera difficult.

According to Lishe Bora’s Data Clerk, the program has experienced a period of limited funding for a short period. At that time, food and diaper purchases could not be made, fewer children were brought to the program, and enrollment fell to 10 through defaults (Nekesa, 2017). The supply of commodities provided by the Ministry of Health, like RUSFs and RUTFs, is still limited in Langata-Kibera sub-county though the area has the highest case report accuracy in Nairobi County. This situation is currently remedied by redistribution between facilities in the sub-county as need arises, but shows the instability of the commodity supply used by Lishe Bora (Obanyi, 2017).
However, these higher costs come with a significant upside. Lishe Bora’s solves some of the riddles that often affect other SAM treatment programs. Sharing is a common problem when supplements and therapeutic foods are prescribed for a child’s consumption at home because family members of malnourished children are also often hungry (Kaburia, 2017; Lang’at, 2017; Omiya & Akuku, 2017). Providing supplements and food at the Nutrition Center ensures that investments in commodities and food have an impact on a child’s diet. In addition, staff at Lishe Bora can observe a child’s progress in physical, cognitive, and social development more closely (Lang’at, 2017).

Tied to Lishe Bora’s sustainability is the fact that the program’s enrollment has, following an initial increase after opening, consistently declined (Nekesa, 2017). Several staff reported the program’s highest enrollment level was between 40-50 (Lang’at, 2017; Nekesa, 2017; Omala, 2017). At this time 15-25 children are usually in attendance at Lishe Bora (Lang’at, 2017; Nekesa, 2017), though this was more difficult to gauge during the time of this case study due to families traveling to avoid potential violence during elections. This situation occurred despite an average enrollment lasting 15 weeks, as compared to the initially planned 8-12 weeks (Nekesa, 2017).

This decline has been the cause of some concern, but also innovation. CFK has begun sensitizing daycares and ECD centers to malnutrition issues and the resources available to address problems at Lishe Bora and Tabitha Clinic (E. Opana, 2017). CFK has also begun scaling up its Care Group model to Silanga, a fourth village in eastern Kibera (Muasa, 2017; Omiya & Akuku, 2017). This increases the reach of the organization’s nutrition and ECD education efforts to prevent malnutrition and makes it easier to identify acute malnutrition in Silanga. The CHWs employed by Lishe Bora had concerns about these approaches. Both felt the enrollment decline is the result of fewer CHWs being employed at the Nutrition Center to make household visits focused only on nutrition screening and less mobilization in the community as groups to help families feel less isolated. Both factors are based on CHWs concern that the parents of malnourished children feel uncomfortable taking their child in public and that a household-focused approach will identify more cases of malnutrition (Omiya & Akuku, 2017). Multiple staff voiced
positivity about the decline in the identification of SAM as a sign of an effective program (Lang’at, 2017; Nekesa, 2017; E. Opana, 2017), but this development does lessen the benefit of continuing to pay Lishe Bora’s overhead costs.

One concern that was universally raised is a lack of data about CFK’s nutrition programs. As discussed above this issue begins at the sub-county level where national health data does not accurately portray the stunting prevalence of children due to constrained healthcare access (Obanyi, 2017). CHWs and the manager of Tabitha Clinic lamented a lack of data that limits the credit CFK receives for its work in nutrition. One CHW even said, “No one even sees the work we are doing, only God!” (Lang’at, 2017; Omiya & Akuku, 2017). CFK’s new Executive Director recognizes this and is placing new emphasis on monitoring and evaluation in an ongoing organizational restructuring (Omala, 2017). This concern also links back to sustainability as improved monitoring and evaluation of CFK’s nutrition programs will allow the organization to improve operations, trim unnecessary components, and make a stronger case of impact to donors.

This difference of perspective brings up one challenge currently faced by CFK’s nutrition efforts. There is a lack of communication channels between CHWs and the leaders at the program and department level (Omiya & Akuku, 2017). Given CFK’s pioneering history in participatory development and community-based work, this was a surprising concern. CHWs interviewed desired more formal opportunities for all staff and stakeholders to provide input about CFK’s nutrition programs saying they would like the return of all-staff meetings when operations and budgeting for Liseh Bora were previously discussed. Currently, CFK’s Department of Health is managed in a more hierarchical manner, with information and input shared vertically through program manager check-ins (Muasa, 2017). In addition, one parent recommended having continuous focus groups suggesting there is a lack of opportunities for parents to provide input about Lishe Bora’s operations (“Parents of Discharged Children 2,” 2017).
Two other concerns were also voiced about Lishe Bora’s operations. Some parents commented that more ECD teachers were needed to provide adequate care at the Center, suggesting a ratio of 1 ECD teacher to 5 children (“Parents of Discharged Children 2,” 2017). In a related concern, one ECD teacher stated that children 4 years and older, who could enter the Kenyan educational system in Baby Class, Nursery Class, or Pre-Unit, do not receive adequate teaching to keep pace with curriculum in the Kenyan system because of constraints on ECD teachers’ time (Madahana, 2017).

External

Given the integration of Lishe Bora as a nutrition and ECD program, it should be no surprise that a main challenge to Lishe Bora’s work is the household food environment. Knowledge about providing children a balanced diet is limited in Kibera, and according to Obanyi, in Kenya as a whole, “In our country, very few people know about nutrition…we are talking about more of the nutrients in the food and once an individual takes it, how they shall benefit best with the nourishment of their body. So, we do a lot of education” (Obanyi, 2017). Also, the cost of food is restrictive. One mother said, “It wasn’t easy. I had to sacrifice to buy fruits like twice a week for all the kids, because I just couldn’t cater for the unhealthy one. The other kids would think I don’t love them,” (“Parents of Discharged Children 1,” 2017) and another, “We’ve been taught here that the child has to eat a balanced diet…we didn’t use to cook with carrots and even spinach and eggs…we used to get flour for porridge from Esther here, but it’s now expensive for us to maintain this lifestyle” (“Parents of Discharged Children 2,” 2017). These issues, added to the fact that supplements sent home for malnourished children are sometimes shared with other family members, may limit the speed of recovery for a child enrolled in Lishe Bora.

Another main challenge to progress on nutrition and ECD issues is the lack of affordable, quality childcare in Kibera. In interviews with CHWs, the Head of Department, CFK’s Executive Director, and others there was a clear recognition that there are no high quality, affordable options for childcare in Kibera, except government or NGO daycares that are crowded or have stringent entry requirements (Madahana, 2017). For the CHWs, this apprehension about quality prevented all confidence when the
option of collaborating closely with daycares and ECD centers was discussed (Omiya & Akuku, 2017). For CFK’s decision makers and the Sub-County Nutritionist, collaboration with daycares and ECD centers represents an opportunity to greatly build capacity in Kibera’s local institutions (Muasa, 2017; Obanyi, 2017; E. Opana, 2017). For parents, daycares are a necessary evil despite the concerning quality of care involved (“Parents of Discharged Children 1,” 2017, “Parents of Discharged Children 2,” 2017).

Though not mentioned as often, another concern surrounding CFK’s nutrition programs involve the lingering stigma around HIV within Kibera. HIV screening policy in Kenya recommend patients to be tested for HIV regardless of reason for visit (NASCOP, 2010). As a result of compliance with this policy, it seems there is occasional confusion or reluctance when parents to take their children to the clinic for the full nutrition assessment (Omiya & Akuku, 2017). During one focus group, hiding a supplement given at Lish Bora due to HIV associations, “People would say that it is given for people with HIV. So, I used to hide it. When I realized how good it is, I wasn’t afraid any more, and my neighbors would ask to give me a bigger paper bag to get more flour for them too” (“Parents of Discharged Children 1,” 2017). This flour is no longer distributed at Lishe Bora, but CFK should continue to be wary of associations with HIV that might stigmatize nutrition programs.

**Future Direction**

Based on the results of the focus groups and interviews, any conversation about the future of CFK’s nutrition programs would be lacking if the role of informal ECD centers and daycares in Kibera was not discussed. CFK’s current leadership and the Sub-County Nutritionist are interested in collaborating extensively with ECD centers and daycares on issues such as nutrition education, growth monitoring, vitamin A supplementation, de-worming, micronutrient powder distribution, and even malnutrition treatment (Muasa, 2017; Obanyi, 2017; Omala, 2017). CFK has already begun efforts to sensitize these institutions on issues of nutrition and health, having worked with 56 daycares in Gatwekera, Kianda, and Soweto West, as well as, all of the 350 ECD centers and schools in Kibera (E. A. Opana & Walker, 2017).
The interest in collaborating with ECD centers and daycares comes from the recognition that a large portion of the children under age 5 are cared for in these institutions and the belief that ECD center and daycare quality in Kibera puts children at risk of malnutrition (Muasa, 2017). CFK already has coverage of all children under age 5 in clinical settings through the Lishe Bora and OTP programs. However, in community settings CFK has limited coverage of children between the ages of 2-5. Working with ECD centers and daycares is an efficient way to allocate resources to the target population. Given the earlier concerns voiced by CHWs about the reluctance of parents to bring malnourished children into public spaces and because many parents leave children with neighbors or family, this will not cover all of the target population in the community. In addition, given the distrust of ECD centers’ and daycares’ quality discussed earlier there are risks to CFK’s reputation in the community if community members are not included in the design of this program from the beginning or if the community does not buy into the mission of building capacity in these institutions.

A related idea that was voiced often during data collection, mostly by parents of discharged children and CHWs, is a desire for CFK to open its own ECD Center with enrollment determined by discharge from one of the clinical malnutrition treatment programs (Akoth, 2017; Nekesa, 2017; Omiya & Akuku, 2017; “Parents of Discharged Children 1,” 2017, “Parents of Discharged Children 2,” 2017). The inspiration behind this idea is the difficulty families face, especially single-parent woman-headed households, in finding a quality childcare option that is affordable. Given current concerns about the sustainability of Lishe Bora’s overhead costs, this option may not be feasible. But, the regularity with which parents asked for reinforces the need for affordable childcare or a broad increase in incomes in Kibera.

Discussion of how to improve Lishe Bora’s enrollment was also a heavy point of conversation. One of the ECD teachers, Akoth, spoke of increasing promotion of the Nutrition Center as a resource through word of mouth, announcements at community gathering places, and the built environment, “We told Mark one day that we can write a thing outside the gate…so that when someone is passing they say,
‘Oh, there’s a Nutrition Center here.’ You know this is a church, some people don’t know…also, to involve more CHWs to create awareness.” (Akoth, 2017). CHWs voiced a desire to hire more staff at Lishe Bora again to do household visits focused on nutrition screening (Omiya & Akuku, 2017).

In addition to discussions about enrollment there were ideas about improving Lishe Bora’s operations as well. CFK’s Health Department Head, Mark Muasa, spoke about the long-term idea of buying a space for Lishe Bora which could reduce overhead costs and increase the program’s sustainability (Muasa, 2017). During focus groups, parents had a few suggestions as well: more comfortable beds for children to sleep on, a more flexible timetable for drop-off and pick-up of children from Lishe Bora, and continuous parent focus groups that allow community members a chance to provide feedback about the program (“Parents of Discharged Children 1,” 2017, “Parents of Discharged Children 2,” 2017).

As mentioned above, a common concern about Lishe Bora and CFK’s other nutrition programs was the weakness of current monitoring and evaluation efforts and the lack of ability to determine a program’s outcomes and impact. Clinic Manager, Faith Lang’at, stated:

If you do a lot of things without concrete data, data that has been analyzed, data that can inform, then…you will not have a lot of evidence to show up or to showcase your good work…we should have consistent, accurate, timely data of monitoring of the children. We’ve done a lot since 2013, it’s four years now. We’ve done a lot, but do we have data that has been consistently collected, stored…how else will you tell the world (Lang’at, 2017)?

Lang’at expressed a need for baseline data, including for anemia which is not well-documented in Kibera, program data collection, and impact assessment. As stated earlier, the CHWs agree with Lang’at on this (Omiya & Akuku, 2017), and better data will allow CFK to be more accountable to its donors and make a better case in future grant proposals. Underneath this desire for data is the desire to make CFK’s nutrition programs, especially Lishe Bora, models of best practice. As CFK’s Executive Director, Hillary Omala put it, “So, my dream has been that we have a proof of concept within Kibera. That we can then share with others for purposes of replication. And that’s why I have a huge focus on research! Right? So,
Lishe Bora is one of those targeted. If we can prove that this concept works…that’s the biggest external opportunity that I currently see.”

Limitations

Several factors did limit this case study during data collection and analysis, and should be mentioned for the sake of transparency. In data collection this research was limited by the author’s initial unfamiliarity with Kibera, as well as, a lack of ability to speak Swahili, Luo, or Luhya which would have facilitated more nuanced conversations about CFK’s nutrition efforts in interviews and focus groups. Other limitations originated in the analysis of the collected data. All qualitative data was analyzed intuitively, with the author’s understanding and interpretation of the transcribed data used to group comments and statements under specific themes. Quotations from the qualitative data were used to provide some emic perspectives along with the implicit etic perspective of the groupings.

Time was also a limitation in two regards. Two months were set aside for data collection in the field, which is too little time to conduct an impact assessment. However, this document attempts to gather current stakeholder views of Lishe Bora and other programs to set a foundation for future assessment efforts. Leadership of CFK still view an impact evaluation as an important priority to increase community impact and accountability with stakeholders. In addition, the one-month timeframe set aside for transcribing focus groups was not adequate, meaning insights from one focus group with parents of discharged children and both focus groups of parents with children currently enrolled in Lishe Bora have not been included in this report. However, it is not expected that these exclusions would dramatically alter the results and discussion given above.
VIII. Summary

This case study was conducted with four objectives in mind: to assess the program’s credibility, to understand participant outcomes through quantitative data, to explore the programs’ benefits beyond clinical treatment with focus groups and interviews, and to solidify and further discussion of Lishe Bora and the future of CFK’s other nutrition programs. Meeting these objectives was facilitated by the collection of data through the use of CFK’s Lishe Bora database, household visits with CHWs, participant observation, focus groups, and interviews.

Kenya is a developing country with a rapidly growing population. Due to the adoption of a new constitution in 2011, the right to food among adults and the right to nutrition among children was established. Rural areas often receive focus in malnutrition treatment and prevention efforts due to worse statistics than urban areas. However, the aggregation of statistics in urban areas hides a dire malnutrition situation in informal settlements. Residents of Kibera, one of the largest slums in Africa where more than 200,000 people live, often work for low wages, have limited access to public utilities and infrastructure, and worse health care access than more affluent urban areas. All of these factors limit residents’ ability to secure their right to food security, and especially, creates barriers to realizing children’s right to basic nutrition. As a result, the prevalence of different forms of malnutrition, like stunting, is high and has been targeted by CFK as a point of intervention.

Through the operation of its nutrition-specific Lishe Bora program, a program operated at the cutting edge of the nutrition and ECD evidence-base, CFK had treated 328 children for SAM as of September 29, 2017. The average treatment period of patients is currently 15 weeks. The benefits of Lishe Bora are noted to extend beyond anthropometric improvements for children, knowledge and financial stability benefits for families, and improved awareness of nutrition issues and resources within the community, as well as, a perception of declining malnutrition rates in western Kibera. This is in addition to the children treated for MAM in the Tabitha Clinic OTP and other preventive, nutrition-sensitive
services such as the promotion of WaSH practices and the support of appropriate feeding and caregiving through community Care Groups.

CFK’s current arrangement of nutrition programs does face challenges though. Due to rent, labor, and food purchasing costs, Lishe Bora is expensive despite addressing issues faced by other SAM treatment models. This has led to questions of long-term sustainability given the falling enrollment in the program, due to the success of CFK’s nutrition efforts. There was a near universal belief that monitoring and evaluation practices of CFK’s nutrition programs are lacking at the moment and limiting the ability of staff to prove the value of their programs. Stakeholders also expressed frustration with the current structure of communication in Lishe Bora and CFK, which has become more formalized and hierarchical over time. Alongside these internal concerns, external issues such as the household food environment, a lack of affordable, quality childcare options, and the potential for association with lingering HIV stigma in the community were also challenges facing these programs.

There are however many optimistic discussions about the future directions of CFK’s nutrition programs. In particular, about operating a nutrition program in the community targeting children above the age of two. While Lishe Bora and the OTP at Tabitha Clinic cover this group in clinical programs, CFK’s community Care Group program only covers children up to age 2. As a result, CFK staff have begun to partner with ECD centers and daycares in the community, with the intention to dramatically increase nutrition outreach through these partners, and parents of children discharged from Lishe Bora and other community members expressed broadly a desire for CFK to open a model ECD center that enrolls children previously treated for malnutrition. Changes to Lishe Bora’s operations that would increase the program’s enrollment and improvement its treatment were also discussed by several stakeholders. The final idea that was expressed by several stakeholders of CFK’s nutrition programs was ways of developing and utilizing the organization’s monitoring and evaluation methods to verify program impact and even develop program models that could be shared with other organizations after concepts have been proven effective.
Throughout its programs and facilities, the Health Department of CFK operates with deep regard for the importance of nutrition. More so than any other organization in Kibera, CFK has invested in improving the nutrition status of its target population to positive results in the western villages of Gatwekera, Kianda, and Soweto West. As an organization that prides itself on being born in Kibera and integrated with community, this work addresses an essential component of a community’s well-being. Nutrition is one of the determinants of the education, productivity, and life a child will lead in the future and even in transition CFK’s staff recognizes that. In the words of Lishe Bora Nutritionist, Esther Opana, “Bringing up a child is not a one parent responsibility. It is a community involved. Yes. So…we need to be our brother’s keeper. If something is wrong, we help them where they need” (E. Opana, 2017).
IX. Works Cited


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